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3 TRANSPORTATION OF HAZARDOUS MATERIALS AND WASTE

Synopsis

The purpose of this section is to provide information regarding the application of the Department of Transportation (DOT) regulations to hazardous materials transported by or offered by NOAA personnel. The section applies to all NOAA facilities, work sites, ships and employees.

Initial Implementation Requirements:

- **Appoint a Designated Person to coordinate hazardous material transportation (3.6)**
- **Identify Scope of Applicability at Site/Facility Operations with the Requirements of this Section**
  - Identify all hazardous materials transported by NOAA employees (3.6)
  - Identify all hazardous materials and wastes transported by a contracted service provider (3.6)
  - Prepare a "short list" of site-specific hazardous material and hazardous waste shipping descriptions using 3.7.2 and 3.11

Recurring and Annual Task Requirements:

- **Meet With Transporter to Identify and Verify Shipping Descriptions, Labeling and Marking to be Used on Containers and Shipping Documents During Length of Contract.**
- **Periodically (at least semi-annually), Inventory Types and Quantities of Hazardous Materials Transported Off-site by NOAA Personnel for Use at Remote Work Locations (3.6)**
- **Train Affected Personnel in Their Role of Ensuring Compliance with DOT and EPA Transportation Requirements (3.6, 3.10 and Section 7.6.14)**
- **Inspect Labeling, Marking and Paperwork Prepared by Transportation Service Provider Prior to Signing Shipping Document and Releasing Hazardous Materials/Hazardous Waste for Transportation (3.6)**
- **Ensure Signed Copy of Hazardous Waste Manifest is Returned From TSDF Within 45-Days**

Checklist

3 Transportation of Hazardous Materials and Waste	YES	NO	N/A
1. Has the work site identified all the hazardous materials regulated by the U.S. Department of Transportation (DOT) that are transported by NOAA employees? (3.6)	_____	_____	_____
2. Have all NOAA employees who transport these hazardous materials received instruction on proper labeling and marking as well as methods to secure these materials during transport? (3.6, 3.10 and Section 7.6.14)	_____	_____	_____
3. Have all DOT hazardous materials that are transported from the facility or work site by a contracted hauler been identified? (3.6)	_____	_____	_____
4. Has a listing been prepared for each DOT hazardous material identifying the material, its proper shipping name, the appropriate markings and allowable shipping containers to be used?	_____	_____	_____
5. Have all NOAA employees who load, unload, mark, label, package, prepare or sign the shipping documents for DOT materials received the required DOT HazMat employee training? (3.10 and 17.6.14)	_____	_____	_____

3 TRANSPORTATION OF HAZARDOUS MATERIALS AND WASTE

3.1 Purpose and Scope

National Oceanic and Atmospheric Administration (NOAA) operations utilize many different hazardous materials, both at NOAA facilities and/or at remote locations. Because these materials are transported by NOAA personnel when specific maintenance activities are undertaken, the Department of Transportation (DOT) Hazardous Material Regulations (HMR) must be considered to assure safe transport. This section addresses the application of these rules to NOAA facilities and personnel and provides specific guidance for typically transported hazardous materials.

3.2 Definitions

Designated Person - a NOAA employee assigned the task of coordinating and reviewing the transportation of hazardous materials to and from a NOAA facility. This role need not be assigned to the Facility Environmental Coordinator, it may be assigned to another NOAA employee.

Designated Responsible Official (DRO) - the senior NOAA official on-site. This official has authority over operations or activities which are subject to environmental and worker safety statutes. The responsibility of the DROs is inherent in their position and need not be formally designated or ascribed.

Facility Environmental Coordinator (FEC) -the individual responsible for ensuring the activities carried out at a facility are conducted in accordance with Federal, state and local environmental regulations. Typically, each NOAA facility will have a designated FEC who is also responsible for compliance with occupational safety and health requirements. In the NWS, this individual is identified as the Environmental and/or Safety Focal Point

Labeling - the application of hazard warning labels as prescribed in the Hazardous Materials Table.

Marine Pollutant - a material which is listed in Appendix B to the Hazardous Materials Table.

Marking - the descriptive name, instructions and cautions designated for a hazardous material in 49 CFR 172.300. Marking includes the proper shipping name, the identification number, other related material (ORM) designations, internal packaging and specific requirements for various types of tanks.

n.o.s. description - as defined by the DOT, a shipping description from the Hazardous Materials Table which includes n.o.s.

Placarding - the application of DOT-designed hazard warning sign(s) to the outside of the shipping vehicle.

3.3 Acronyms Employed in This Section

ASOS	-	Automated Surface Observation System
CERCLA	-	Comprehensive Environmental Response and Compensation Liability Act
CFR	-	Code of Federal Regulations
CHEMTEC	-	Chemical Manufacturers Transportation Emergency Center
CONUS	-	Continental United States
COTR	-	Contracting Officer Technical Representative
DCP	-	Data Collection Platform
DOT	-	Department of Transportation
DRO	-	Designated Responsible Official
EPA	-	Environmental Protection Agency
ERG	-	Emergency Response Guidebook
FEC	-	Facility Environmental Coordinator
HM	-	Hazardous Material
HMR	-	Hazardous Materials Regulations
HMT	-	Hazardous Materials Table
HMTA	-	Hazardous Materials Transportation Act
HMTUSA	-	Hazardous Materials Transportation Uniform Safety Act
ICAO	-	International Civil Aviation Organization
IMDG	-	International Maritime Dangerous Goods
LARC	-	Limited Access Remote Collector
NOAA	-	National Oceanic & Atmospheric Administration
n.o.s.	-	Not Otherwise Specified
NWS	-	National Weather Service
ORM	-	Other Regulated Material
RCRA	-	Resource Conservation and Recovery Act
RDA	-	Radar Data Acquisition
RECO	-	Regional Environmental Compliance Officer
RQ	-	Reportable Quantity
TSDF	-	Treatment, Storage and Disposal Facility
UN/NA	-	United Nations/North American

3.4 Regulatory Requirements

3.4.1 Federal Legislation

a. The Hazardous Materials Transportation Act (HMTA) of 1974 required the Department of Transportation (DOT) to identify hazardous materials which would pose a danger to health and safety while in transit and to specify identification, labeling, packaging and placarding requirements as

a means of managing these hazards during transportation. The Hazardous Material Regulations (HMR) are found in 49 CFR Parts 171-180.

b. The Hazardous Materials Transportation Uniform Safety Act (HMTUSA) of 1990 amends the HMTA with additional requirements.

c. The Resource Conservation and Recovery Act (RCRA) regulates the storage, transportation and disposal of hazardous waste. While maintaining specific requirements for waste transporters, the Environmental Protection Agency (EPA) expressly adopts the DOT regulations for the transportation of hazardous waste. These regulations specify the requirements for labeling, marking, placarding, use of proper containers and reporting of discharges. The adoption of the DOT rules to hazardous waste shipments ensures consistency and avoids duplication of conflicting transportation requirements. Both EPA and DOT have enforcement authority over hazardous waste shipments regardless of the other agency's enforcement action (or inaction).

3.5 Application to NOAA

3.5.1 Exemption for Federal Government

The HMTA and HMTUSA applies to "any person" who transports hazardous materials in commerce. The NOAA, as an organization within the Federal Government, is included as a "person" and thereby subject to the HMR. But, the action of "transporting in commerce" does not apply to the NOAA. According to a clarification letter issued by the DOT, "in commerce" means to "further a commercial enterprise" and that enterprise is "in competition with the private sector." The DOT has given the opinion that transportation undertaken by the Government is ***not*** to further a commercial enterprise specifically when it is carried out by government personnel in government vehicles (whether rented, owned or leased) and is intended for a governmental purpose.

3.5.2 How does this affect NOAA?

a. The HMR ***do not*** apply to the transportation of operationally-necessary hazardous materials from NOAA facilities transported in government vehicles, by NOAA employees to NOAA remote work sites/locations.

b. The HMR ***do not*** apply to the transportation of operationally-necessary hazardous materials and hazardous waste used and/or generated at the remote work site/locations for transport back to a NOAA facility as long as it is undertaken by NOAA personnel using a government vehicle.

c. The HMR ***do apply*** to any entity ***contracted*** by NOAA personnel to transport a hazardous material or waste either to or from a NOAA facility or remote work site/location.

Note: In this circumstance, it is the use of the contractor's employees and/or its vehicle (i.e. including vessel and aircraft) that defines the transport as "furthering a commercial enterprise." This transport is not covered as a governmental activity and the transporter must comply with the HMR.

d. The HMR ***do apply*** to the transportation of hazardous waste to a treatment, storage or disposal facility by NOAA personnel, using a government or private vehicle. According to the Environmental Protection Agency (EPA) regulations for hazardous waste in 40 CFR Parts 262 (Standards Applicable to Generators) and 263 (Standards Applicable to Transporters) HW transporters must have an EPA Identification Number. Because it is not in the mission of the NOAA scope of responsibilities to transport hazardous waste and due to the legal consequences potentially associated with this activity, the transportation of hazardous wastes to permitted treatment and disposal facilities by NOAA personnel is prohibited.

Note: With the growing awareness of the hazardous nature of the garbage being disposed in local garbage landfills, many communities have set-up periodic "household hazardous waste" collection days to segregate and/or recycle certain types of waste. Depending upon the requirements established by the community, NOAA facilities ***may*** be able to participate. Before transporting ***any*** waste generated at a NOAA facility or work location, contact the local program officials to determine whether the NOAA facility, as a Federal government activity and generator of hazardous waste, can participate and if there are any special requirements regarding the transportation of the waste to the collection site (needed documents, permits, etc.).

e. The HMR **may** apply to the transportation of computer central processing units (CPUs) and cathode ray tubes (CRTs) or monitors.

Currently the EPA regulates them as hazardous wastes and hence they can only be transported by a registered hauler. Because the EPA is proposing to regulate these as universal wastes - as some States currently are doing - they are regulated under the DOT rules. Some States are regulating them as controlled scrap metal for recycling and as a result, requiring a registered hauler be used.

f. The HMR are issued for the safe transportation of hazardous materials in intrastate, interstate and foreign commerce with applicability in the United States, District of Columbia, Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, the Virgin Islands, American Samoa, Guam and any other possession so designated.

This means that NOAA facilities and work locations in any of these foreign countries must apply the same interpretation of "government activity versus furthering a commercial enterprise" when transporting hazardous materials and/or waste. It is NOAA policy that all NOAA activities including facilities in other than the Continental United States (CONUS) locations assure, to the best of their ability, that contracted transportation services comply with all applicable HMR. Consult with Regional Environmental/Safety Coordinator or the Safety/Environmental Coordinator, if applicable, and/or the NOAA Regional Environmental Compliance Officer (RECO) for additional advice.

3.6 NOAA Implementation

The first task is to assign a Designated Person to coordinate the hazardous materials transportation effort. This role is normally tasked to the Facility Environmental Coordinator, but may be assigned to another NOAA employee. To help coordinate the implementation at NOAA work sites, an inventory must be taken to identify all hazardous materials transported by NOAA employees. Additionally, another inventory will be generated of all hazardous materials and wastes transported by contracted service providers. These inventories will help identify the level of effort necessary and additional site personnel requiring training.

The DOT regulations affect any *person* who offers a hazardous material for transportation, each *carrier* who transports a hazardous material and *any one else* who performs a packaging, labeling or marking function.

Typically, contractors are used by NOAA to either deliver needed hazardous materials or to pickup waste for disposal or recycling. As a result, the involvement of NOAA employees with the DOT rules can appear minimal because the contractor usually "prepares" the shipping document/manifest, ensures proper packagings are used and even attaches DOT labels.

But, because the DOT identifies the "offerer," the "transporter" and "others" whose role can affect the transported material, the NOAA and its employees at most locations are still bound by these rules.

The Environmental Focal Point or Designated Person must ensure that all work performed by the contracted provider be checked periodically to ensure compliance with applicable rules because by signing the prepared shipping paper, the NOAA

representative is certifying that the shipment has been prepared in accordance with the DOT rules and as a result, NOAA assumes liability for compliance.

3.6.1 Contract Language

When using a contractor to transport, treat or dispose of a hazardous waste, NOAA does not transfer legal liability for improper management with the physical transfer of the waste. NOAA remains liable long after the waste is gone. As a result, all new and existing contracts must be carefully scrutinized to maintain minimum liability for NOAA and its employees. All contracts must be reviewed to assure that the contract clearly mandates that the contractor comply with the law. With the assistance of the Contracting Officer's Technical Representative (COTR), review all existing contracts to ensure they include a phrase mandating the contractor to "comply with all applicable Federal, State and local laws pertaining to the proper transportation, management and disposal of wastes and materials."

3.6.2 Review of the Transportation Contractor (Hauler)

Prior to using the services of a transportation contractor, contact the Regional Environmental Coordinator or the Safety/Environmental Coordinator (SECO) , if applicable, and/or the NOAA Regional Environmental Compliance Officer (RECO) to determine if the hauler is registered to transport hazardous materials and/or waste and to determine the hauler's compliance history. Also determine if there are pending citations or other legal sanctions for improper or illegal transportation practices by the hauler. If so, how have these been resolved? What is the current enforcement status of the hauler?

Also, in the investigatory interview, a determination must be made as to whether the hauler has sufficient resources and/or the necessary insurance to protect the NOAA from unexpected liabilities if accidents or mishandling occurs during transportation.

Again, the COTR can provide assistance in this effort.

3.7 Transportation of Hazardous Materials

3.7.1 Hazardous Material Table

The DOT designates materials as hazardous by listing them upon the Hazardous Materials Table (HMT). The HMT is an alphabetical list of commodities or items that identifies:

a. the material's hazard class or that the material is forbidden in transportation

b. the proper shipping name or direction to the preferred proper shipping name

c. specific (or references to) requirements in the HMR pertaining to labeling, packaging, quantity limits aboard aircraft and stowage of hazardous materials aboard vessels.

The HMT consists of ten (10) columns of information which is used to fulfill the requirements for a given shipment. The HMT is found in 49 CFR 172.101. Due to its length and on-going potential for revision, reference a current copy of the HMT at www.access.gpo.gov/nara/cfr/waisidx_01/49cfr172_01.html.

Attachment A to the HMT is the List of Hazardous Substances and Reportable Quantities. The Attachment lists materials and their corresponding reportable quantities (RQs) that are designated as "hazardous substances" by CERCLA. The Attachment is used to determine the need for additional information to be provided on shipping documents and containers. Because the EPA has the legal responsibility to determine the reportable quantities for the DOT, these RQs can be found in Appendix B to this manual.

3.7.2 Shipping Papers

Anyone who offers a hazardous material for transportation is required to describe the material on a shipping paper as specified in 49 CFR 172.200-204. This document accompanies the shipment to its destination and serves as a record of the shipment, the transporter used and final disposition of the hazardous materials shipped from NOAA facilities and work locations.

a. General Entries

While non-regulated items may be included on the same shipping paper as regulated hazardous materials, the hazardous material entries must be identified as denoted in §172.201(a)(1).

b. Contents

(1) All copies of shipping papers must be legible and printed (mechanically or manually) in English.

(2) Unless allowed, no abbreviations may be used in the description.

(3) Additional information about the material may be added, but it must be placed after the "basic description."

(4) If more than one sheet is necessary, ensure that it is sequentially numbered indicating the number of pages (i.e. 1 of 4 pages).

c. Emergency Response Telephone Number

A 24-hour emergency response telephone number for use in the event of an emergency involving the shipped hazardous material must be provided on the shipping paper. The number must have immediate access to a person who is knowledgeable of the material and emergency response mitigation information for the material.

Prefaced by "Emergency Contact," the number(s) may be applicable to a single item or to all items on the shipping paper. The number may be to a contracted agency/group who can provide the information when needed. NOAA has contracted with the Chemical Manufacturers Association Transportation Emergency Center (CHEMTREC), 24-hour emergency response communication service to provide this information for all NOAA line offices. NOAA facilities shall include the following emergency contact telephone number on all shipping papers describing hazardous materials shipments from NOAA locations: "Emergency Contact: 1-800-424-9300."

d. Description of Hazardous Material on Shipping Papers

The "shipping description" of a hazardous material on shipping papers must include the following items in the following order:

(1) the proper shipping name as prescribed in column 2 of the HMT
(2) the hazard class or division prescribed in column 3 of the HMT
(3) the identification number prescribed in column 4 of the HMT
(4) the packaging group in roman numerals prescribed (if any) in column 5 of the HMT, preceded by "PG"
(5) the total quantity, by net or gross mass, capacity or other appropriate units (use of abbreviations allowed).

As an example, the proper shipping description for 25-gallons of gasoline would be:

"Gasoline, 3, UN 1203, PG II" 25 gals.

e. Additional Description Requirements

The following additional requirements as found in 49 CFR 172.203 may apply when describing a hazardous material.

(1) Exemptions - when a shipment is made under an exemption, it must bear the notation "DOT-E" followed by the exemption number.

(2) Limited Quantities - if an item meets the requirements for a limited quantity, the words "Limited Quantity" or "Ltd Qty" must follow the basic description.

(3) Hazardous Substances - if a hazardous substance description does not identify the substance by name (i.e. flammable liquid, n.o.s.), the name of the hazardous substance shall be entered in parentheses in association with the basic description.

(a) for mixtures of hazardous materials containing two or more hazardous substances, the name of the two hazardous substances with the lowest RQs must be identified.

(b) for hazardous waste streams, the waste code (e.g. D001) may be used to identify the waste.

The letters "RQ" (for reportable quantity) must be noted before or after the basic description if the material/waste is listed on Appendix A to the HMT and the quantity in an individual package contains an amount equal to or greater than the RQ listed for the material.

(4) Radioactive material - additional notations are required in 49 CFR 172.203(d).

(5) Empty packagings - a description for a packaging containing the residue of a hazardous material may include "Residue: Last Contained" in association with the basic description of the hazardous material last contained in the package.

(6) Transport by air - additional notations as required by 49 CFR 172.203(f).

(7) Transport by rail - additional notations as required by 49 CFR 172.203(g).

(8) Transport by highway - additional notations as required by 49 CFR 172.203(h) for shipments of anhydrous ammonia and liquified petroleum gas.

(9) Transport by water - additional notations as required by 49 CFR 172.203(i).

(10) Technical names for not otherwise specified or "n.o.s." descriptions - if one of the proper shipping names shown on the

HMT with a "G" in column 1 is utilized, the technical name of the hazardous material must be entered in parentheses in association with the basic description (i.e. Corrosive liquid, n.o.s., (sodium hydroxide) 8, UN 1760, PG II."

(11) Marine pollutants listed on Appendix B to the HMT have special considerations. Where the proper shipping name does not identify by name the component that makes the material a marine pollutant, the name of the marine pollutant must be entered in parentheses in association to the basic description. If a mixture contains two or more marine pollutants, the names of at least two most predominately contributing to the marine pollutant designation must appear in parentheses.

(a) The words "Marine Pollutant" shall be designated in association to the basic description which is a marine pollutant.

(b) Except for transport by vessel, this requirement does not apply to oil (as designated in 49 CFR 130) as long as the proper shipping name identifies the material as such.

(12) Poisonous material - regardless of the hazard class to which a material is assigned, the following requirements apply to poisonous materials:

(a) if a Division 6.1, PG I or II solid or liquid material whose shipping name or class does not disclose that it is a poison, the words "Poison" or "Toxic" must be entered on the shipping paper in association with the description.

(b) Materials poisonous by inhalation must be marked "Poison-Inhalation Hazard" or "Toxic Inhalation Hazard." Additionally, if a gas, "Zone A, or B, or C, or D" shall be entered following the shipping description. If a liquid, "Zone A or B" as appropriate.

(13) Elevated temperature materials - the word "HOT" must be noted preceding the proper shipping name if a liquid material meets the definition in §171.8.

(14) Organic peroxides (Class 5.2) and self-reactive (Class 4.1) materials must include additional information as required by 49 CFR 172.203(o).

f. Each shipping document must contain a certification as specified in 49 CFR 172.204 to assure that the described materials have in all respects met the applicable requirements of the DOT. Additional certification requirements are specified for transport by cargo and passenger aircraft and for radioactive materials.

3.7.3 Marking and Labeling

When a material is offered for shipment, each container must be properly marked and labeled. While one often assumes these terms have the same meaning, the DOT specifies two distinct regulatory programs to accomplish the identification of hazardous materials.

Marking is defined by the DOT as the application of the descriptive name, instructions and cautions designated in 49 CFR 172.300. Marking includes the proper shipping name, the identification number, ORM designations, internal packaging and specific requirements for portable tanks, cargo tanks, tank cars and radioactive materials. This information may be applied directly to the container with paint, marker, etc. or on an adhesive-backed sticker.

Labeling requirements are found in 49 CFR 172.400 and specify the application of hazard warning labels prescribed in the Hazardous Materials Table. Additional labeling requirements are specified for radioactive materials and multiple hazard materials and packaging.

Note: Appendix D to this manual is a freeware program entitled, "Hazardous Waste Labels." This is a WORD document which can be used to print many of the markings and labels required for typical wastes generated by NOAA. Unfortunately, because it cannot be converted to WordPerfect format, users will need to locate a computer with Microsoft WORD.

In general, labeling is the application of the DOT hazard warning labels specified in the HMT and marking is the application of other required information on the container.

a. Marking

Anyone who offers a hazardous material for transport must mark each package, freight container and transport vehicle containing a hazardous material according to 49 CFR 172 Parts 300-338.

The following summary identifies *selected* markings for hazardous materials in non-bulk packagings:

(1) The proper shipping name as it appears in the DOT HMT column 2 (49 CFR 172.301).

(2) The identification number as it appears in column 4 of the DOT HMT. The number is not required on packages of "limited quantities" or ORM-D material.

(3) The proper shipping name for a hazardous waste is not required to include the word "waste" if the package bears the EPA marking as required by 40 CFR 262.32.

(4) The technical chemical name of the hazardous material or substance must be marked in parentheses if column 1 of the HMT indicates a "G", and/or the selected shipping name does not otherwise identify the chemical/material (49 CFR 172.301 and 172.324).

(5) Packages containing inner containers of liquid hazardous material must be marked with the "this end up" arrow designation. There are numerous exceptions to this requirement (see 49 CFR 172.312).

(6) The words "Inhalation Hazard" must be marked on packages of poisonous inhalation materials (49 CFR 172.313).

(7) Materials classified as a consumer commodity must be marked ORM-D or ORM-D-Air if being transported by air (49 CFR 172.316).

(8) Marine pollutants shipped by vessel and/or in bulk quantities must be marked as specified (49 CFR 172.322).

(9) The letters "RQ" (for reportable quantity) must be displayed in association with the proper shipping description for each package containing the reportable quantity of a hazardous substance (49 CFR 172.313).

The required markings must be:

(a) durable
(b) in English
(c) printed or affixed to the surface of a package or a label, tag or sign
(d) displayed on a background of a contrasting color
(e) unobstructed by labels or attachments

(f) located away from any other marking (i.e. advertising) that could substantially reduce its effectiveness.

b. Labeling

Each person who offers for transport or transports a hazardous material in a non-bulk package, a bulk packaging or overpack with a capacity less than 640 cubic feet or portable tank with a capacity of less than 1,000-gallons, must label the hazardous material as required in column 6 of the HMT. Labeling requirements are found in 49 CFR 172 Parts 400-450.

The following summary identifies *selected* labeling requirements.

(1) Packages must be labeled with the proper DOT label as shown in column 6 of the HMT (49 CFR 172.400).

(2) Subsidiary Hazard Labels. Some substances have more than one hazardous characteristic. The DOT regulations require that some of these materials be labeled with more than one label to reflect the additional hazard. Column 6 specifies the required labels (49 CFR 172.402).

(3) Radioactive materials that also meet the definition of one or more additional hazards must be labeled as radioactive material as well as for each additional hazard (49 CFR 172.403).

(4a) Mixed Packaging. When hazardous materials having <u>different</u> hazard classes are packed in the same container or overpack, the outside packaging must be labeled for <u>each</u> hazard class of the HM in the container (49 CFR 172.404).

(4b) Consolidated Packaging. When two or more packages containing compatible HM are placed within the same outside container or overpack, the outside container or overpack must be labeled for each hazard class of the hazardous material contained therein (49 CFR172.404).

(5) Labels may not be modified unless authorized in 49 CFR 172.405.

(6) Labels must be printed on or affixed to the surface of the package near the proper shipping name (49 CFR 172.406).

(7) DOT labels must meet the criteria listed in 49 CFR 172.407.

(8) The word "toxic" can be used in lieu of the word "poison" on the Poison Label.

(9) Labeling exemptions exist for numerous materials and packages. See 49 CFR 172.400a.

Labels must be:

(a) printed or affixed to a surface (other than the bottom) of the package
(b) placed near the proper shipping name marking
(c) when a subsidiary label or multiple labels are required, it must be placed within 6-inches of the primary hazard label
(d) clearly visible and may not be obscured by markings.

3.7.4 Placarding

The DOT regulations require placarding of shipments of hazardous materials depending on the hazard class and quantity. Hazardous material placards look very much like hazardous material warning labels in terms of shape, color and design. Placards are used to alert people of the potential dangers associated with the type of hazardous material being transported in a motor vehicle, railcar, freight container, cargo tank, or portable tank. They also guide emergency personnel in their response to spills or accidents involving the hazardous material.

a. Summary of Placarding Requirements

(1) Each person who offers for transportation or transports any hazardous material must utilize the appropriate placards. 40 CFR 262.33 requires a generator of hazardous waste to placard or offer the initial transporter the appropriate placards.

(2) A hazardous material must be placarded as specified in Tables 1 and 2 of 49 CFR 172.504.

(a) Table 1 - Hazard classes identified on Table 1 are required to be placarded whenever <u>any quantity</u> is transported. While contract haulers normally have the placards for the transport vehicle, NOAA must ensure the correct placard is used.

(b) Table 2 - Hazard classes identified on Table 2 are excepted from placarding requirements when less than 454 kg (1,001 pounds) aggregate gross weight of hazardous material are being transported.

Table 1

Category of material (Hazard class or division number and additional description, as appropriate)	Placard name
1.1	EXPLOSIVES 1.1
1.2	EXPLOSIVES 1.2
1.3	EXPLOSIVES 1.3
2.3	POISON GAS
4.3	DANGEROUS WHEN WET
5.2 (Organic peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE
6.1 (inhalation hazard, Zone A or B)	POISON INHALATION HAZARD
7 (Radioactive Yellow III label only)	RADIOACTIVE[1]

[1] RADIOACTIVE placard also required for exclusive use shipments of low specific activity material and surface contaminated objects transported in accordance with §173.427(a) of this subchapter.

Table 2

Category of material (Hazard class or division number and additional description, as appropriate)	Placard name

1.4	EXPLOSIVES 1.4
1.5	EXPLOSIVES 1.5
1.6	EXPLOSIVES 1.6
2.1	FLAMMABLE GAS
2.2	NON-FLAMMABLE GAS
3	FLAMMABLE
Combustible liquid	COMBUSTIBLE
4.1	FLAMMABLE SOLID
4.2	SPONTANEOUSLY COMBUSTIBLE
5.1	OXIDIZER
5.2 (Other than organic peroxide, Type B, liquid or solid, temperature controlled)	ORGANIC PEROXIDE
6.1 (inhalation hazard, Zone A or B)	POISON
6.2	(None)
8	CORROSIVE
9	CLASS 9 [SEE §172.504(f)(9)]
ORM-D	(None)

(3) Dangerous placard. When a transport vehicle (et.al.) contains non-bulk packages with two or more different hazard categories of materials that would otherwise require different placards specified in Table 2, the "Dangerous" placard may be applied instead of the hazard-specific placards. If any hazard class category exceeds 1,000 kg (2,205 pounds) aggregate gross weight (loaded at one facility), then the individual placard for the hazard category must be applied.

(4) Exception for less than 454 kg (1,001 pounds). When non-bulk packages which contain less than 454 kg (1,001 pounds) aggregate gross weight of hazardous material covered in Table 2 are transported by highway, no placard is required.

(5) Hazardous material placards must be displayed on each end and each side of a motor vehicle or other transport vehicle and be readily visible.

(6) Placarding requirements may vary according to the mode of transport (highway, rail, water, air) and the type of transport vehicle or container.

(7) Hazardous materials which possess a subsidiary hazard as described in 49 CFR 172.505 must apply additional placarding to the vehicle.

(8) Placarding exceptions are specified in 49 CFR 172.504(d)(f).

3.8 Transportation of Hazardous Waste

The EPA mandates the requirements for generators of hazardous waste in 40 CFR 262. When a generator transports or offers for transportation a hazardous waste, the EPA specifies a number of requirements to be fulfilled in order to ensure appropriate management and protection of health, safety and the environment.

3.8.1 Hazardous Waste Manifest

The key to the RCRA Hazardous Waste Management Program is the use of the manifest. This document is designed to record the movement of hazardous waste from the generator through the transporter(s) and any intermediate storage sites, to the site where it is to be treated or disposed.

a. General Requirements

The manifest must be prepared by the generator prior to transporting the waste off-site. Since the generator must designate on the manifest the permitted facility to which the waste is to be delivered, prior contact with the TSDF will be required in most cases. The generator can also specify an alternate TSDF to which the transporter can deliver the waste in case of an emergency.

If, for some reason, the transporter is unable to deliver the hazardous waste to either the designated or alternate facility, the transporter must contact the generator. The generator, in turn, must either designate another facility or instruct the transporter to return the waste.

Under this system, the transporter can only deliver the waste where the generator has instructed.

b. Information Required on the Manifest

The EPA specifies that the manifest contain the following information:

(1) a manifest document number
(2) the name, address, telephone number and EPA identification number of the generator
(3) the name and EPA identification number of each transporter
(4) the name, address and EPA identification number of the designated and the alternate TSDF, if any
(5) the proper shipping name of the waste per DOT regulation (49 CFR 172)
(6) the total quantity of each hazardous waste and the type and number of containers in or on the transport vehicle.

Although the form of the manifest is prescribed, the states are allowed to add information to the form. The state-revised manifest may be required for all intrastate and certain interstate shipments.

To avoid confusion where transport takes place between two states each requiring use of its own version of the uniform manifest, the EPA has established the following protocol:

(1) if both the state receiving the waste and the generator's state from where the shipment of the waste is sent require use of a state-modified uniform manifest, the receiving state version must be used.

(2) if the receiving state does not require use of a state-modified uniform manifest, but the generator's state does, the generator's state-modified uniform manifest must be used.

(3) if neither state requires use of a state-modified version of the uniform manifest, any printed version of the manifest may be used.

In all cases, only one uniform manifest is to be used.

Under the authority of HSWA, the EPA amended the Generator's certification on the uniform manifest to read:

"If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford."

By signing this document, generators of over 1,000 kg/mo affirm that they have a program of waste minimization "in place." Generators of between 100 and 1,000 kg/mo merely affirm that they have made a "good faith effort" to minimize their waste generation. The EPA clarified this "good faith effort" to mean that these generators need only "consider" the waste minimization options available to them.

Although small quantity and conditionally-exempt small quantity generators are not legally bound by this statement when signing the manifest, best management practices require they also comply with these conditions.

c. Number of Copies

The manifest is designed to provide enough copies so that the generator, each transporter and the TSDF will each have one copy with an additional copy to be returned to the generator by the TSDF. This usually means at least a 4-part form is required. If more than one transporter is used, the number of copies must increase accordingly.

Some state agencies also require copies of the manifest - potentially two (2) copies apiece for the generator's state agency and the disposer's state agency.

d. Use of the Manifest

During its use, the uniform manifest must accompany the waste shipment from the generator, through each transporter to the designated TSDF.

The generator:

(1) signs the manifest
(2) has the transporter sign and date upon pickup of the hazardous waste
(3) removes one copy for his records
(4) gives the remaining copies to the next transporter or the designated facility
(5) when the signed copy is returned by the designated facility, it can be added with or replace the original copy signed only by the generator and transporter.

The transporter will then:

(1) have the next transporter or the designated facility (whichever is applicable) sign and date the manifest upon receipt of the waste shipment
(2) retain a copy for his or her records
(3) give the remaining copies to the next transporter or the designated facility.

The designated facility will:

(1) retain a copy of the manifest for its records
(2) return a copy of the completed, signed manifest to the generator to acknowledge receipt of the shipment.

For shipments within the United States that are solely by rail or bulk shipments solely by water, the generator sends three (3) copies of the

manifest directly to the TSDF. Copies of the manifest are not required for each transporter for these shipments.

States that have their own state-modified uniform manifest may require a slightly different procedure. Before shipping, check with the appropriate regulatory agencies.

e. Pre-Transport Requirements

Before a shipment of hazardous waste is transported off-site, the EPA requires the generator to comply with the DOT regulations regarding packaging, labeling, marking and placarding (as specified in 3.7 - Transporting Hazardous Materials).

(1) Packaging - all packaging used for off-site shipment of hazardous wastes must conform to the DOT regulations found in 49 CFR 173, 178 and 179.

(2) Labeling - each package of hazardous waste must be labeled in accordance with DOT regulations for hazardous materials under 49 CFR 172 (i.e. flammable gas, oxidizer, corrosive material, etc.).

(3) Marking - each package of hazardous waste must be marked in accordance with the DOT regulations for hazardous materials under 40 CFR 172. At a minimum, the proper DOT shipping name (which includes the hazard class and UN/NA number) must be clearly marked on each container.

In addition, the EPA requires that each container under 110-gallons in capacity must have the EPA-mandated marking that says:

HAZARDOUS WASTE

Federal Law Prohibits Improper Disposal. If Found,
Contact the nearest police or public safety authority
Or the U.S. Environmental Protection Agency.

Generator's Name and Address _____

_____

Manifest Document Number _____

Note: Within the DOT system, this is not a "label." It is a "marking." Several companies supply adhesive-backed EPA Hazardous Waste markings which usually contain spaces for additional information that is not required by the EPA.

3.9 Emergency Response Communication Standards

In an effort to improve the communication of emergency response information for hazardous materials transported in commerce, the DOT requires that certain information be provided and maintained by the shipper.

a. Emergency Response Information (49 CFR 172.602)

Emergency response information must be maintained by carriers and facility operators who receive, store or handle hazardous materials during transportation. In the event of an emergency incident, the information must be accessible to vehicle operators and facility personnel.

At a minimum, the information must include: the DOT description of the hazardous material, information on immediate hazards to health, risks of fire or explosion, immediate precautions and methods for handling spills, leaks or fires and preliminary first aid measures.

Facilities must maintain the information whenever the hazardous material is present and the information must be immediately accessible to personnel and available for use away from the package containing the material.

The information may be presented on the shipping paper or referenced to another document that contains the required information (i.e. the Emergency Response Guidebook); aboard aircraft, the International Civil Aviation Organization (ICAO) "Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods" and aboard vessels, the International Maritime Organization (IMO) "Emergency Procedures for Ships Carrying Dangerous Cargo").

If the DOT Emergency Response Guidebook (ERG) is used as reference for the required information, use of the initials "ERG" followed by the appropriately assigned guidance number can be used to cross-reference the required information. The cross-reference citation should be placed in conjunction with the material it applies to.

b. Telephone Contact for Emergency Response Information (49 CFR 172.604)

A 24-hour emergency response telephone number is required on most shipping documents describing hazardous materials. Only "limited quantities" and specific commodities are excepted from this requirement. The telephone number must either contact a person knowledgeable of the hazards, characteristics and

mitigation information of the shipped commodity or one who has immediate access to someone who does.

The emergency telephone number is to be accessible on a 24-hour basis. The number is to be placed on the shipping paper immediately following the description or, if the number applies to all materials on the shipping document, it may be entered once in a visible location. If designated by the person offering the shipment, the telephone number may be to another organization which has accepted responsibility for providing the detailed information. NOAA has contracted with CHEMTREC to provide this service. All shipping documents accompanying shipments of hazardous materials from NOAA facilities must reference "Emergency Contact: 1-800-424-9300."

3.10 Hazmat Employee Training

Each "hazmat employer" (NOAA) is required to train "hazmat employees" (NOAA Environmental Focal Point and others) regarding safe loading, unloading, handling, storing and transporting of hazardous materials as well as emergency procedures for responding to accidents/incidents involving the transportation of hazardous materials. The purpose of the DOT requirements in 49 CFR 172.700 is to increase a hazmat employee's awareness of safety considerations and regulatory requirements in order to reduce the occurrence of hazardous material incidents caused by human error.

To achieve this goal, there are three training requirements that apply to all modes of transportation. The three requirements are:

a. General Awareness/Familiarization Training (i.e. HM regulations, hazard recognition)

b. Function-Specific Training (i.e. skills, knowledge to perform job related to DOT-specified requirements or ICAO Technical instruction or IMDG-Code as applicable)

c. Safety Training (i.e. material hazards, personal protection, handling procedures, remedial actions)

Section 17.6.14 provides details on what is required by each of these requirements.

The employer must certify that each employee received training and was tested on appropriate areas of responsibility. New employees and those who change job functions must receive training within 90-days of employment or after changing jobs. Recurrent training is required at least once every three years. A training record must be kept during the employment term plus 90-days after for each employee who completes the training.

3.11 Transportation of Specific Materials

The following section has been included to provide guidance to NOAA personnel who transport or offer to contracted transporters hazardous materials and/or waste from NOAA facilities and work sites. Notwithstanding the exemption provided to the Federal Government when undertaking the transportation of hazardous materials - by governmental employees, in government vehicles, for a governmental purpose - the use of the appropriate DOT shipping/marking/labeling information by NOAA personnel is strongly encouraged. At a minimum, the generation of a shipping document listing the hazardous materials being carried is suggested for all hazardous material transportation.

Caution The information provided is based on "typical" materials in use at NOAA facilities and "typical" wastes generated. If the material or waste varies in any way from the descriptive discussion provided, the use of the DOT shipping name, markings and label assigned herein may be inappropriate or illegal. Consult with the Regional Environmental/Safety Coordinator or the Safety/Environmental Coordinator (SECO) if available, and/or the NOAA RECO for assistance.

The following terms used in the DOT information section are defined as follows:

Used - means spent, contaminated or unusable, to be discarded; a "waste".

Unused - means "new", *not* contaminated, used, spent or a waste.

Used-for disposal - means the material is used and is being sent for disposal.

Used-for recycling - means the material is used and is being sent to a recycling facility.

Waste - see "used".

Shipping Document - the type of document required for documenting the transportation or final disposition of an item.

3.11.1 Gasoline

Gasoline may be present at NOAA facilities in quantities necessary to fuel mechanical equipment used on-site or at remote work locations (i.e. lawnmower, weed-whacker, snow blower, trencher, emergency pump or small generator, chain saw, snowmobile, snow cat, boat motor, etc.). The following descriptions are applicable when gasoline is transported in containers, not when it is within the gas tanks of the previously described types of equipment.

a. Unused Gasoline

Proper Shipping Name: Gasoline
Hazard Class: 3
Identification Number: UN 1203
Packaging Group: II
Additional Information: N/A
Label: 3 (Flammable Liquid)

EPA Hazardosu Waste ID Number: N/A

b. Waste Gasoline

Gasoline may become a regulated hazardous waste if it is mixed with some other commodity that would prohibit its use as a fuel (becomes contaminated). Gasoline, other than being ignitable, also contains lead (*even* unleaded gasoline contains lead). If mixed with oil (used or unused), it is still regulated as a hazardous waste due to its low flash point and the lead. Other hazardous materials which come to be mixed into the gasoline may require identification for purposes of *disposal*, not necessarily for transportation (i.e. a mix of used lacquer thinner and gasoline would be "flammable" for a transportation hazard, but EPA would require indication of its chemical components for disposal and/or treatment).

Proper Shipping Name: Waste Gasoline
Hazard Class: 3
Identification Number: UN 1203
Packaging Group: II
Additional Information: N/A
Label: 3 (Flammable liquid)
EPA Hazardous Waste ID Number: D001 (ignitability), D008 (lead) and additional ID numbers to indicate other EPA-regulated contaminants (see Section 2 - Management of Waste)

3.11.2 Oil

Oil, including motor oils, lubricating oils, mineral oils and hydraulic oils are utilized in the operation and maintenance of mechanical equipment, i.e. backup diesel generator and other gasoline-powered equipment and the rain gauges, etc.

a. Unused Oil

Proper Shipping Name: Petroleum Oil
Hazard Class: 3 (Flammable liquid category also covers combustible liquids)
Identification Number: NA 1270
Packaging Group: III
Additional Information: N/A
Label: 3 (Flammable liquid)
EPA Hazardous Waste ID Number: N/A

b. Used Oil

Used oils and waste oil mixtures identified as consisting of small quantities of gasoline and diesel fuel as well as lubricating oils, mineral oils, hydraulic oils and other similar materials are presently not regulated as hazardous wastes by EPA, but are regulated under another special set of rules. For example, waste oils must be labeled as "used oil" and sent for recycling. If they are contaminated with heavy metals or if mixed with other listed hazardous wastes, the hazardous waste rules apply. In general, waste oil, if disposed (rather than recycled), is classified as a hazardous waste if it contains Federally-listed hazardous constituents or if it meets the EPA's criteria for toxicity, ignitability, corrosivity or reactivity (see Section 2.10.1).

Some states regulate used oil as a hazardous waste and nine states regulate waste oil under their solid waste regulations. Requirements may include the manifesting of any waste oil as a hazardous waste. The proper shipping name and other DOT information required on the manifest is provided below. Questions concerning state requirements should be addressed to the Regional Environmental/Safety Coordinator or the Safety/Environmental Coordinator (SECO), if applicable, and/or the NOAA Regional Environmental Compliance Officer (RECO).

Waste oils and waste oil mixtures being disposed:

Proper Shipping Name: Waste Petroleum oil
Hazard Class: 3
Identification Number: NA 1270
Packaging Group: III
Additional Information: when applicable: insert technical names of at least two chemical components that most contribute to the hazard of the mixture.
Label: 3 (Flammable liquid)
EPA Hazardous Waste ID Number: D001 (ignitability), D008 (lead)

3.11.3 Antifreeze (propylene glycol or ethylene glycol)

Antifreeze is used as an additive to rain gauge collection buckets in cold climates to prevent freezing of accumulated precipitation. It is also used in the operation of the emergency backup generators. Propylene glycol is not listed on the DOT hazardous material table and thus is not regulated when transported.

"Used" propylene glycol/water/mineral oil mixtures similarly are not regulated in transportation. Ethylene glycol also is not listed on the HMT. "Antifreeze" is listed on the HMT, but references users to classify/name it as a "flammable liquid." Most antifreeze solutions have either a flashpoint above 200°F or no flashpoint at all. Therefore "flammable liquid" cannot apply. Ethylene glycol is not regulated in transportation. "Used" ethylene glycol similarly is not regulated in transportation.

In regard to disposal, while most states and the EPA do not regulate this as a hazardous waste, some have special programs for used antifreeze. Contact the Regional Environmental Coordinator or the Safety/Environmental Coordinator (SECO, if applicable and/or the NOAA RECO for assistance.

See Section 2.11.2 for a discussion regarding the proper management of antifreeze/water/oil mixtures and antifreeze solutions.

3.11.4 Batteries

The use of batteries as a power source is a common occurrence within NOAA operations. Batteries are found in the office and the Radar Data Acquisition (RDA) Emergency Power Generator Systems, in the Data Collection Platform (DCP) units, at the Automated Surface Observation System (ASOS) sites, in computers, some power tools, emergency exit lighting, the Limited Access Remote Collector (LARC), flashlights, digital cameras, etc. Most of the batteries involved with the systems or equipment listed are either: lead-acid (liquid or gel cell), lithium, alkaline or nickel-cadmium rechargeable. To simplify the selection of a proper name for the batteries being transported by NOAA personnel, this discussion identifies batteries as being "new" (not yet used), "used-for disposal" or "used-to be recycled." For each scenario, the DOT information can be different.

a. Lead-acid Batteries

	New	**Used-for disposal**	**Used, to be recycled**
Proper Shipping Name	Batteries, wet, filled with acid	Waste Batteries, wet, filled with acid	Waste Batteries, wet, filled with acid
Hazard Class	8	8	8
ID Number	UN 2794	UN 2794	UN 2794
Packaging Group	III	III	III
Label	8-Corrosive	8-Corrosive	8-Corrosive
EPA ID Number	N/A	D002, D008	None

Shipping Document	Shipping Paper/Bill of Lading	HW Manifest	None*

***** For universal wastes being sent for recycling, the EPA does not require the use of a tracking document. Best management practices and common sense mandate that paperwork documenting the transfer be maintained by the shipper to record this activity.

b. Lithium Batteries

These batteries are used by the NWS as a power source for electronic and emergency equipment. The Signal Processing System (SPS) utilizes Lithium Carbon Monofluoride Batteries. Other lithium batteries may be found in computer equipment.

	New	**Used-for disposal**	**Used, to be recycled**
Proper Shipping Name	Lithium Battery	Waste Lithium Battery	Used Battery(ies) (Lithium)
Hazard Class	9	9	N/A
ID Number	UN 3090	UN 3090	N/A
Packaging Group	II	II	N/A
Label	9-Miscellaneous	9-Miscellaneous	N/A
EPA ID Number	N/A	D003	None

Shipping Document	Shipping Paper/Bill of Lading	HW Manifest	None*

***** For universal wastes being sent for recycling, the EPA does not require the use of a tracking document. Best management practices and common sense mandate that paperwork documenting the transfer be maintained by the shipper to record this activity.

c. Alkaline Batteries

Alkaline batteries are commonly used at NOAA facilities. These batteries are found in items such as flashlights, some battery-operated smoke detectors, walkie-talkie-type radios, the battery pack used in office equipment such as clocks, pencil sharpeners and portable radios. These batteries are non-rechargeable. Alkaline batteries may be "wet" or "dry."

If the batteries are "dry" (see MSDS)	**New**	**Used-for disposal**	**Used-to be recycled**
Proper Shipping Name	Batteries, dry, containing potassium hydroxide solid	Waste Batteries, dry, containing potassium hydroxide solid	Waste Batteries, dry, containing potassium hydroxide solid
Hazard Class	8	8	8
ID Number	UN 3028	UN 3028	UN 3028

Packaging Group	III	III	III
Label	8-Corrosive	8-Corrosive	8-Corrosive
EPA ID Number	N/A	None-Dry alkali materials do not meet the legal definition of a corrosive hazardous waste. Check State Regs.	None
Shipping Document	Shipping Paper/Bill of Lading	Shipping Paper	None*

***** For universal wastes being sent for recycling, the EPA does not require the use of a tracking document. Best management practices and common sense mandate that paperwork documenting the transfer be maintained by the shipper to record this activity.

If the batteries are "wet" (see MSDS)	**New**	**Used-for disposal**	**Used-to be recycled**
Proper Shipping Name	Batteries, wet, non-spillable	Waste Batteries, wet, non-spillable	Waste Batteries, wet, non-spillable
Hazard Class	8	8	8
ID Number	UN 2800	UN 2800	UN 2800
Packaging Group	III	III	III
Label	8-Corrosive	8-Corrosive	8-Corrosive
EPA ID Number	N/A	D002	None
Shipping Document	Shipping Paper/Bill of Lading	HW Manifest	None*

***** For universal wastes being sent for recycling, the EPA does not require the use of a tracking document. Best management practices and common sense mandate that paperwork documenting the transfer be maintained by the shipper to record this activity.

d. Nickel-Cadmium (NiCAD) Batteries

Nickel-Cadmium Batteries are rechargeable and are used in cordless power tools, cellular/portable phones, laptop computers, camcorders and digital cameras. These batteries contain an alkali electrolyte solution.

	New	**Used-for disposal**	**Used-to be recycled**
Proper Shipping Name	Batteries, wet, filled with alkali	Waste Batteries, wet, filled with alkali	Waste Batteries, wet, filled with alkali
Hazard Class	8	8	8
ID Number	UN 2795	UN 2795	UN 2795
Packaging Group	III	III	III
Label	8-Corrosive	8-Corrosive	8-Corrosive
EPA ID Number	N/A	D002, D006	None
Shipping Document	Shipping Paper/Bill of Lading	HW Manifest	None*

***** For universal wastes being sent for recycling, the EPA does not require the use of a tracking document. Best management practices and common sense mandate that paperwork documenting the transfer be maintained by the shipper to record this activity.

3.11.5 Fluorescent Tubes

Utilized at most NOAA offices and/or sites, most fluorescent tubes contain enough mercury to fail for the EPA toxicity characteristic. Some companies have started manufacture of low mercury contact tubes, but caution is advised. Some manufacturers have overstated their product's attributes. If in doubt, contact the NOAA RECO for advice. See Section 2.9.3 for a discussion of management procedures if they are to be sent for recycling as a universal waste.

Fluorescent tubes are not regulated by the DOT because they are not specifically listed on the HMT. When shipped for disposal, however, because EPA regulates them as hazardous wastes, the DOT must regulate them as a hazardous material.

	New	Used-for disposal	Used-to be recycled
Proper Shipping Name	Fluorescent Tubes	Hazardous waste, solid, n.o.s. (Fluorescent tubes)	Fluorescent Tubes
Hazard Class	N/A	9	N/A
ID Number	N/A	NA 3077	N/A
Packaging Group	N/A	III	N/A
Label	N/A	9-Miscellaneous	N/A
EPA ID Number	N/A	D009	N/A
Shipping Document	None	HW Manifest	None*

* For universal wastes being sent for recycling, the EPA does not require the use of a tracking document. Best management practices and common sense mandate that paperwork documenting the transfer be maintained by the shipper to record this activity.

3.11.6 Pesticides

NOAA uses pesticides to thwart the homesteading of insects on/in instrumentation and buildings. Typically, only small quantities are purchased and applied by NWS personnel. For those quantities that are not "consumed" through application or stored so long so as to be considered "out-of-date," the pesticide is to be managed as an universal waste if recycled. Since there are few facilities which recycle these materials, the unused pesticide typically gets disposed as a hazardous waste (depending on its ingredients).

Due to the variability in the components of different products and whether they are being sent for recycling (universal waste) or for disposal as a hazardous waste, there are no "typical" pesticides. Contact your Regional Environmental Coordinator or Safety/Environmental Coordinator (SECO) if available, and/or the NOAA RECO for disposal and shipping description information for specific materials.

3.11.7 Paints

Paints, in both spray and liquid form, and related materials (such as lacquer thinner, paint remover, etc.) are found at most NOAA facilities. According to DOT regulations (49 CFR 173.173), ***Paint*** is the proper shipping name for paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid aluminum, liquid bronze, liquid gold, liquid wood filler and liquid lacquer base. ***Paint-related material*** is the proper shipping name for paint thinning, drying, reducing or removing compound.

When selecting the appropriate description, note that not only is the end use described by the shipping name from the HMT, but also different hazard classes (3 or 8) and the degree of danger presented as either great (PG I), medium (PG II) or small (PG III). In the case of paints that are flammable liquids - class 3, the following criteria in 49 CFR 173.121 should be used to determine which PG should be assigned to the paint being transported:

Packaging Group (PG)	Flash Point (closed-cup)	Boiling Point
I	---	≤35°C (95°F)
II	<23°C (73°F)	>35°C (95°F)
III	≥23°C, ≤60.5°C (≥73°F, ≤141°F)	---

The MSDS for the paint product should reveal the flash point and/or boiling point so that the assignment can be made.

a. Waste Code Assignment

The hazardous waste classification of paints, thinners, solvents and cleaners is dependent upon the identity of the solvent, the heavy metal content, pH and flash point and in some cases, whether or not a State has determined them to be "spent solvents." Under most situations, paint waste and/or spent thinners do not qualify as a hazardous waste unless the flash point is less than 140°F or the mixture is found to contain a heavy metal such as chromium, lead or mercury. Because lead-based paint or latex paint with mercury-based fungicides are not produced today, the prevalence of lead and mercury-contaminated paint is decreasing. However, be wary when removing old paint. To ensure correct identification, a representative sample should be taken and submitted to a qualified lab for analysis. Consult with the Regional Environmental Coordinator or Safety/Environmental Coordinator (SECO) or NOAA RECO to determine if the item is regulated.

Some paints might (in rare cases) also warrant consideration due to a very high or low pH and for this reason would be classified as a hazardous waste due to corrosivity (EPA Waste Code D002).

The *potential* EPA Hazardous Waste Numbers/Characteristic for spent thinners and paint waste are:

D001 - ignitability
D002 - corrosivity

D007 - toxicity - chromium
D008 - toxicity - lead
D009 - toxicity - mercury
F002 - (spent methylene chloride, trichloroethylene, 1,1,1-trichloroethane)
F003 - (spent xylene, acetone, etc.)
F005 - (spent toluene, methyl ethyl ketone, etc.)

See Section 2 - Management of Waste for a detailed discussion of determining the assignment of hazardous waste identification numbers.

Consult with the Regional Environmental Coordinator or the Safety/Environmental Coordinator (SECO), if applicable, and/or the NOAA RECO to determine applicable requirements.

	New	
Proper Shipping Name	Paint, or Paint-related material	Paint, or Paint-related material
Hazard Class	3	8
ID Number	UN 1263	UN 3066
Packaging Group	I or II or III	II or III
Label	3-Flammable Liquid	8-Corrosive
EPA ID Number	None	None
Shipping Document	Shipping Paper/Bill of Lading	Shipping Paper/Bill of Lading

	Used-for Disposal	
Proper Shipping Name	Waste Paint, or Waste Paint-related material	Waste Paint, or Waste Paint-related material
Hazard Class	3-Flammable Liquid	8-Corrosive
ID Number	UN 1263	UN 3066
Packaging Group	I or II or III	II or III
Label	3-Flammable Liquid	8-Corrosive
EPA ID No.	All that apply as per 6.11.7.a.	All that apply as per 6.11.7.a.
Shipping Document	HW Manifest	HW Manifest

Used-to be Recycled

DOT descriptive information is the same as for a shipment of "waste" paint or paint-related material. Although paints *may* have an opportunity to be recycled in some areas of the country, they have *not* been designated as a universal waste and thus when recycled, all regulated hazardous constituents must be identified when they are being sent for disposal.

3.11.8 Cleaners and Degreasers

While NOAA uses many different cleaning products, it is the select group of "solvent-based" cleaners that are addressed here. Examples include magnetic tape head cleaner (contains xylene, ethane, benzene) and paint stripper (xylene, hexane, naphtha). An investigation into the components in the product is the key to proper identification. In this group, there are many possible DOT descriptions and *only a sampling* of the potential descriptions are included here.

Under the heading of "New," the product being shipped is best described using its "name" as shown on the product label. When the product is "used and to be sent for recycling," the DOT description will be the same as the hazardous waste description provided below under the heading "Used-for Disposal." Solvents destined for recycling are not exempted as universal wastes and all regulated hazardous constituents must be identified as if being sent for disposal.

a. Used-for Disposal

According to DOT regulations, a liquid with a flash point at or below 141°F is classified as a flammable liquid and a liquid with a flash point above 141°F and below 200°F is classified as a combustible liquid.

(1) A mixture of *spent non-halogenated solvents* containing **more than one** of the following: Xylene, Acetone, Ethyl ether, methyl isobutyl ketone, cyclohexanone, methanol, cresols, nitrobenzene, MEK, Toluene, Carbon disulfide, Isobutanol, etc. may be shipped using the following information:

Proper Shipping Name: "Waste Flammable liquid, n.o.s."

Hazard Class: 3

Identification Number: UN 1993

Packaging Group: I, II or III (see 6.11.7 for PG selection criteria in hazard class 3)

Additional Information: (insert technical names of at least two components that most contribute to the hazard of the mixture in parentheses after the "n.o.s.")

Label: 3-FLAMMABLE LIQUID

EPA Hazardous Waste ID No.: F003, F004, F005 (depending on chemicals). See Attachment 2 to Section 2 - Management of Waste for listings of hazardous waste numbers.

(2) Any of the previously listed non-halogenated solvents if kept segregated (not mixed) would require the specific name as found on the HMT. Information for MEK is provided as an example.

Proper Shipping Name: (as found in Column 2 of HMT) Example: "Waste Methyl ethyl ketone"

Hazard Class: (as found in Column 3 of HMT) Example: 3

Identification Number: (as found in Column 4 of HMT) Example: UN 1193

Packaging Group: (as found in Column 5 of HMT) Example: II

Additional Information: **N/A** *Label*: (as found in Column 6 of HMT) Example: 3-FLAMMABLE LIQUID

EPA Hazardous Waste ID No.: (as listed in Attachment 2 to Section 2 - Management of Waste) Example: F005 (if spent), U159 (if unused or excess material)

(3) While solvents and cleaners containing halogenated solvents have been replaced by other less toxic chemicals, some NOAA facilities and workstations may still have old stock that will require disposal. The following information is required for disposal of *halogenated solvent* wastes if kept segregated including Perchlorethylene, Trichloroethylene, Trichloroethane and Methylene chloride. Information for 1,1,1-Trichloroethane is provided as an example.

Proper Shipping Name: (as found in Column 2 of HMT)
Example: "Waste 1,1,1-Trichloroethane"
Hazard Class: (as found in Column 3 of HMT) Example: 6.1
Identification Number: (as found in Column 4 of HMT) Example: UN 2831
Packaging Group: (as found in Column 5 of HMT) Example: III
Additional Information: N/A *Label*: (as found in Column 6 of HMT)
Example: 6.1-POISON
EPA Hazardous Waste ID No.: (as listed in Attachment 2 to Section 2 - Management of Waste)
Example: F001 (if used in degreasing),
U226 (if unused or excess material),
F002 (if used for other than degreasing)

For Freon (chlorofluorocarbon solvents and Mixtures):

Proper Shipping Name: "Hazardous waste, liquid, n.o.s."
Hazard Class: 9
Identification Number: NA 3082
Packaging Group: III
Additional Information: contains Freon
Label: 9-MISCELLANEOUS
EPA Hazardous Waste ID No.: (as listed in Attachment 2 to Section 2 - Management of Waste)
Example: F001

3.12 Responsibilities

3.12.1 NOAA Headquarters

a. The NOAA Environmental/Safety Office shall perform an annual assessment of the NOAA headquarters facilities to ensure that the facilities are in compliance with this section.

b. The NOAA headquarters Environmental/Safety Office shall periodically perform an assessment of the regional headquarters and field offices to ensure compliance with this section. The frequency of these regional and field office assessments shall be determined by the NOAA Environmental/Safety Office.

c. Requests for clarification concerning this section shall be directed to the NOAA Environmental/Safety Office.

3.12.2 Regional or Operating Unit Environmental/Safety Coordinator

a. Shall monitor and coordinate to promote compliance with the requirements of this procedure for the regional headquarters and field offices or operating units.

b. Shall assist in the investigation and selection of transportation service providers used at workstations to ensure compliance with this section.

c. Shall identify training opportunities to field offices when available.

d. Shall perform an annual assessment of the regional headquarters facilities or operating unit to monitor and promote compliance with the requirements of this section.

e. Shall perform assessments or designate personnel to perform assessments of all field offices to monitor and promote compliance with the requirements of the section.

3.12.3 Designated Responsible Official

a. Shall have oversight over the implementation of this section and ensure that the requirements of this section are followed by individuals at the NOAA facility.

b. Shall ensure sufficient personnel and funding are available to enable compliance with all applicable requirements of this section.

c. Shall ensure that procedures are developed at NOAA field offices for proper labeling, marking and identification of all hazardous material and waste transported by NOAA personnel and contracted service providers.

d. Shall ensure NOAA employees follow the requirements of this section.

e. Shall review or delegate review of this section on an annual basis to ensure that the facility is complying with its requirements. Confirmation of this review shall be forwarded to the Regional or Operating Unit Environmental/Safety Coordinator.

3.12.4 Environmental or Environmental/Safety Focal Point or Designated Person

a. Shall ensure any tasks delegated to them by the Station Manager are implemented in accordance with the requirements of this section.

b. Shall determine status of hazardous material/hazardous waste transportation activities at NOAA facilities and workstations.

c. Shall maintain required paperwork and records.

3.12.5 Employees

a. Individual employees affected by this section are required to read, understand and comply with the requirements of this section.

b. Report all violations of the requirements of this section to their supervisor or Environmental Focal Point.

3.13 References

Incorporated References

The following list of references is incorporated as a whole or in part into this section. These references can provide additional explanation or guidance for the implementation of this section.

3.13.1 Research and Special Programs Administration, Department of Transportation

a.	49 CFR Subchapter C	Hazardous Material Regulations
	(1) Part 171	"General information, regulations and definitions"
	(2) Part 172	"Hazardous Material Tables (HMT), Special Provisions, Hazardous Materials Communications, Emergency Response Information and Training"
	(3) Part 172.101	"Purpose and Use of Hazardous Material Table"
	(4) Part 172.200-205	"Shipping Papers"

(5) Part 172.300-338 "Marking"

(5) Part 172.400-450 "Labeling"

(6) Part 172.500-560 "Placarding"

(7) Part 172.600-606 "Emergency Response Information"

(8) Part 172.700-704 "Training"

3.13.2 **Environmental Protection Agency**

a. 40 CFR Subchapter I Solid Wastes

(1) Part 261 "Identification and Listing of Hazardous Waste"

(2) Part 262 "Standards Applicable to Generators of Hazardous Waste"

(3) Part 262.20-23 "The Manifest"

(4) Part 262.30-34 "Pre-Transport Requirements"

(5) Part 262.40-44 "Recordkeeping and Reporting"

3.13.3 **Emergency Response Guidebook**

a. Developed jointly by Transport Canada, U.S. Department of Transportation and the Secretariat of Transport and Communications of Mexico.